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(73)実用新案権者　594117733
株式会社竹沢精機
栃木県下都賀郡藤岡町大字藤岡2743番地

(72)考案者　竹沢　秀夫
栃木県下都賀郡藤岡町大字藤岡城山3888－6

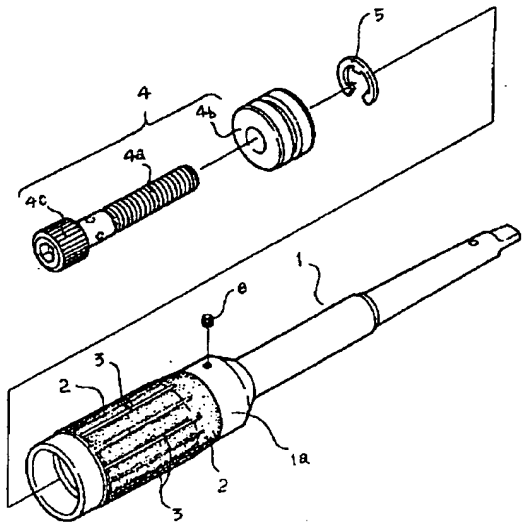
(74)代理人　弁理士　福田　尚夫

(54)【考案の名称】　ラッピングリーマ

(57)【要約】

【目的】　被加工物の内径のラップ仕上げをするため、リーマとラップ仕上げ具を結合させ、切削外径（膨出度合）の調整を、軸方向にスリットを間隔付設したラップ部内壁のテーパー面に挟めた押圧部材の移動をさせて行うことにより、作業性、正確性、高精度性をもたらすラッピングリーマを提供する。

【構成】　リーマ本体１の先端部を円筒状１ａに形成してその外周面一体にダイヤモンドパウダー２を固着し、その円筒状１ａの外周長手方向に数条のスリット３を形成する。そして、前記円筒状１ａの内側は、前記スリット３に略等しい長さ部分を外拡テーパー壁面１ｂに形成し、その外拡テーパー壁面１ｂを有する空間Ｓ内に、該空間Ｓ内壁に形成した雌ねじ部１ｃと螺合する雄ねじ部４ａを有する押圧部材４を挿脱可能に設けて構成される。



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【実用新案登録請求の範囲】

【請求項１】　リーマ本体（１）の先端部を円筒状（１ａ）に形成してその外周面一体にダイヤモンドパウダー（２）を固着し、またその円筒状（１ａ）の外周長手方向に数条のスリット（３）を形成し、円筒状（１ａ）の内側は前記スリット（３）に略等しい長さ部分を外拡テーパー壁面（１ｂ）に形成し、その外拡テーパー壁面（１ｂ）を有する空間Ｓ内に、該空間Ｓ内壁に形成した雌ねじ部（１ｃ）と螺合する雄ねじ部（４ａ）を有する押圧部材（４）を挿脱可能に設けたことを特徴とするラッピングリーマ。

【請求項２】　数条のスリット（３）が円筒状（１ａ）の外周長手方向の中間に設けられた特許請求の範囲第１項記載のラッピングリーマ。

【請求項３】　押圧部材（４）は、先端部に雄ねじ部（４ａ）を、中間に押圧駒（４ｂ）を、後端に回わし部（４ｃ）を形成して構成され、前記雄ねじ部（４ａ）を前記空間Ｓ内壁の谷部に形成した雌ねじ部（１ｃ）と螺合させて挿脱可能にした特許請求の範囲第１項又は第２項記載のラッピングリーマ。

【請求項４】　押圧部材（４）は、先端部に押圧駒（４ｂ）を、後端部に回わし部（４ｃ）を、さらに該回わし部（４ｃ）の外周に雄ねじ部（４ａ）を形成して構成され、前記雄ねじ部（４ａ）を前記空間Ｓ内壁の先端に形成した雌ねじ部（１ｃ）と螺合させて挿脱可能にした特許請求の範囲第２項記載のラッピングリーマ。

【請求項５】　スリット（３）が、螺旋状である特許請求の範囲第１項ないし第４項のうちいずれか一項記載のラッピングリーマ。

【図面の簡単な説明】

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＊【図１】実施例の分解斜視図

【図２】同上縦断側面図

【図３】同上作動状態（膨出前）を示す要部拡大縦断側面図

【図４】同上作動状態（膨出時）を示す要部拡大縦断側面図

【図５】別の実施例の分解斜視図

【図６】同上縦断側面図

【図７】同上作動状態（膨出前）を示す要部拡大縦断側面図

【図８】同上作動状態（膨出時）を示す要部拡大縦断側面図

【図９】さらに別の実施例の分解斜視図

【図１０】同上縦断側面図

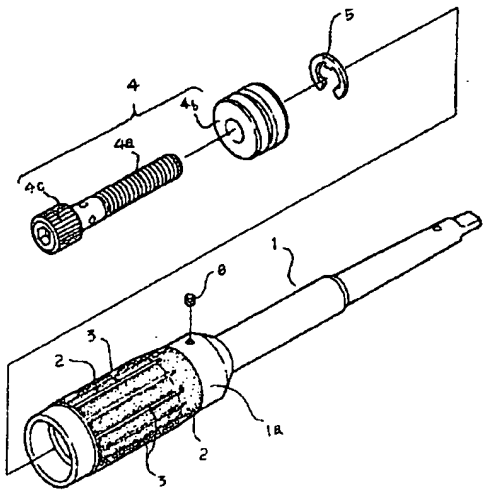
【図１１】同上作動状態（膨出前）を示す要部拡大縦断側面図

【図１２】同上作動状態（膨出時）を示す要部拡大縦断側面図

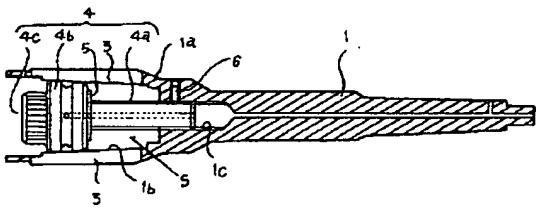
【符号の説明】

	１	リーマ本体
	１ａ	円筒状
	１ｂ	外拡テーパー壁面
	１ｃ	雌ねじ部
	２	ダイヤモンドパウダー
	３	スリット
	Ｓ	空間
	４	押圧部材
	４ａ	雄ねじ部
	４ｂ	押圧駒
＊	４ｃ	回わし部

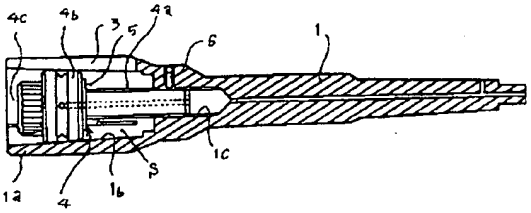
【図１】



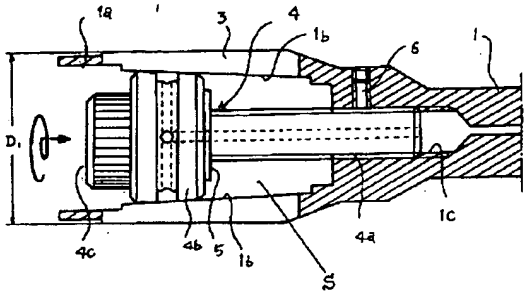
【図２】



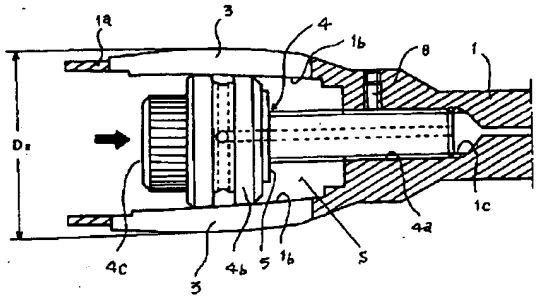
【図６】



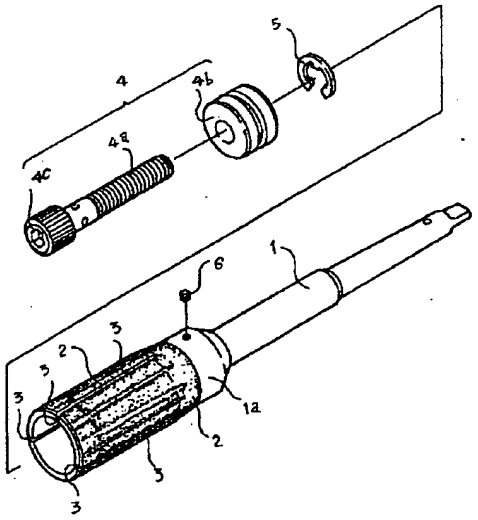
【図3】



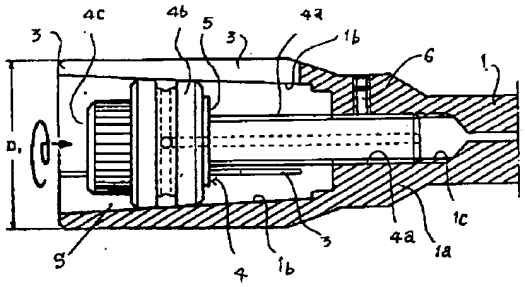
【図4】



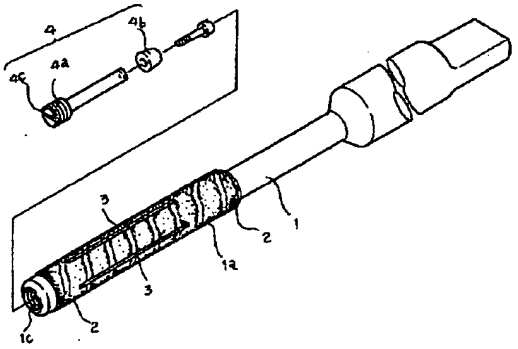
【図5】



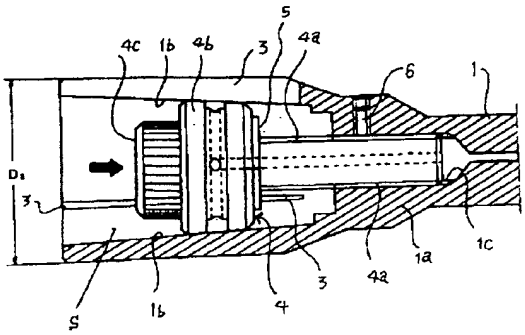
【図7】



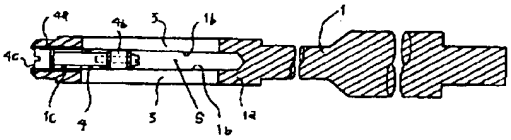
【図9】



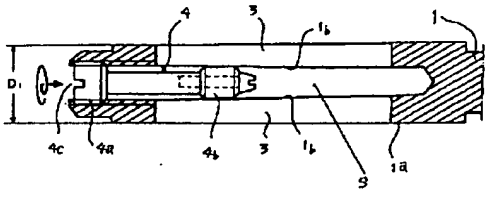
【図8】



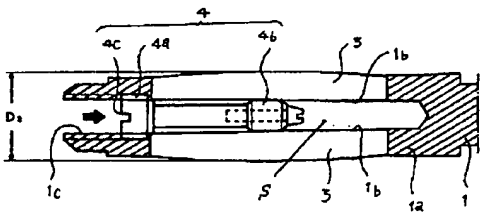
【図10】



【図１１】



【図１２】



【考案の詳細な説明】

【０００１】

【産業上の利用分野】

この考案は、被加工物の内径のラップ仕上げをするため、リーマとラップ仕上げ具を結合させたラッピングリーマに関する。

【０００２】

【従来技術】

外周面にダイヤモンドパウダーを固着した円筒状で、その長手方向全幅に一条のスリットを形成して成る「ラップカラー」と称する工具があり、これをバー先端のテーパー部に嵌着してラップ仕上げをする技術は既に知られている。

ところがこの手段において、バーのテーパー部へのラップカラーの嵌着は、ラップカラーをテーパー部へ嵌合した上その外端面をハンマー等で叩いてスリットを押し開きつゝその反発力を利用して圧締することにより行われるものであるため、次のような不都合を生ずる。

（イ）作業中ラップカラーが弛んでいわゆるもどりを生じ、寸法が不安定、不正確となる。

（ロ）もどりによってラップカラーが空転し、被加工物側に焼付いて取れなくなる。

（ハ）切削外径の微調整が効かない。

（ニ）重切削ができない。

（ホ）ラップカラーの叩き作業が面倒である。

【０００３】

また、このような「ラップカラー」の難点を克服するため、本出願人は先に、ダイヤモンドパウダーを固着し且つスリットを形成した円筒状内に、ボールないし円錐コロを封入した態様のラッピングリーマを提案している（実公平３－２９０６５）。

しかし、この手段によるときは、移動により一旦挟まったボール等を戻すことが困難であり（スリットから細棒を差し入れてかっぱく以外にない）、実際の用を果さなかった。

【０００４】

【考案が解決しようとする課題】

本考案は、先行技術のかゝる実情に鑑みてなされたもので、その主眼とするところは、バーとラップ工具とを一体化した専門のラッピングリーマとすることにより上記（イ）、（ロ）、（ニ）、（ホ）の各難点を解消し、併わせて切削外径の微調整が円滑且つ確実に行えるための手段を凝らして上記（ハ）の難点を克服しようとするものである。

【０００５】

【課題を解決するための手段】

上記目的を達成するため、本考案のラッピングリーマは、リーマ本体１の先端部を円筒状１ａに形成してその外周面一体にダイヤモンドパウダー２を固着し、その円筒状１ａの外周長手方向に数条のスリット３を形成する。

そして、前記円筒状１ａの内側は、前記スリット３に略等しい長さ部分を外拡テーパー壁面１ｂに形成し、その外拡テーパー壁面１ｂを有する空間Ｓ内に、該空間Ｓ内壁に形成した雌ねじ部１ｃと螺合する雄ねじ部４ａを有する押圧部材４を挿脱可能に設けて構成される。

また、前記数条のスリット３が、円筒状１ａの外周長手方向の中間に設けられた上記構成のラッピングリーマである。

さらに、前記押圧部材４は、先端部に雄ねじ部４ａを、中間に押圧駒４ｂを、後端に回わし部４ｃを形成して構成され、前記雄ねじ部４ａをリーマ本体１の円筒状１ａの空間Ｓ内壁の谷部に形成した雌ねじ部１ｃと螺合させて挿脱可能にした上記各構成のラッピングリーマである。

あるいはまた、前記押圧部材４は、先端部に押圧駒４ｂを、後端部に回わし部４ｃを、さらに該回わし部４ｃの外周に雄ねじ部４ａを形成して構成され、前記雄ねじ部４ａをリーマ本体１の円筒状１ａの空間Ｓ内壁先端に形成した雌ねじ部１ｃと螺合させて挿脱可能にした上記各構成のラッピングリーマである。

さらにまた、スリット３が、螺旋状である上記各構成のラッピングリーマである。

上記中、スリット３の数は、強度を保持できる範囲で多く設けることが望まし

く、またスリット形状を螺旋状とすれば、膨出部が均等化されて、より高精度が期待できる。

【0006】

【実施例1】

以下図1乃至図4の実施例によって説明すると、図1において、1がリーマ本体で、その先端部を円筒状1aに形成する。そしてその外周面一体にダイヤモンドパウダー2が電着されている。またその円筒状1aの中間部の円周方向60°間隔に長手方向のスリット3を形成してある。

前記円筒状1aの内側は前記スリット3に略等しい長さ部分を外拡テーパー壁面1bに形成し、その外拡テーパー壁面1bを有する空間S内壁谷部に雌ねじ部1cを形成する。

そして前記空間S内に、先端部に雄ねじ部4aを中間に押圧駒4bを後端にレンチ回わし部4cを形成して成る押圧部材4を、前記雄ねじ部4aを前記雌ねじ部1cと螺合させ、前記回わし部4cの回動操作により挿脱可能としてある。

なお、5は前記押圧駒4bの留めクリップ、6は前記雄ねじ部4aの締付ねじである。

【0007】

【実施例2】

図5乃至図8の実施例は、リーマ本体1の円筒状1aの円周方向120°間隔に形成した長手方向のスリット3が、先端割溝に形成されている点に特徴があり、その余の構成は前掲実施例1と同じくする。

この態様は、スリット3が先端割溝に形成されている結果として、被加工物が止り穴（有低）でもラッピングが可能となる。なお工具寿命は実施例1より短い。

【0008】

【実施例3】

図9乃至図11の実施例は、押圧部材4が、先端部に押圧駒4bを、後端部にドライバー回わし部4cを、さらに該回わし部4cの外周に雄ねじ部4aを形成して構成され、前記雄ねじ部4aをリーマ本体1の円筒状1aの空間S内壁先端

部に形成した雌ねじ部１ｃと螺合させた点に特徴があり、その余の構成は、前掲実施例１と同じくする。

【０００９】

【作用】

次に本考案に係るラッピングリーマの使用状態を、実施例１を中心にして説明すると、図２の状態からレンチ（図示していない）により回わし部４ｃを一方向へ回わす。すると押圧部材４は、その先端雄ねじ部４ａが外拡テーパー壁面１ｂを有する空間Ｓの谷部に形成した雌ねじ部１ｃに螺合されているから、前記空間Ｓ内に推進し、このとき円筒状１ａの中間部には長手方向に六条のスリット３が形成されているから、押圧駒４ｂが外拡テーパー壁面１ｂを押圧しつつ、図３と図４に示すようにその中間部が押圧駒４ｂによって開拡されて膨出部を形成する。その膨出度合はこの押圧駒４ｂの押し込み度合に比例する。

そこで作業者は、その膨出部即ち切削外径をマイクロメーター等で測定しながら被加工物の内径に合わせて作業を進める。

この実施例１は、スリット３が円筒状１ａの外周長手方向の中間に設けられている結果として、円筒状１ａの先端部分の外周は切削外径になり得ないから、被加工物が有底である場合には、スリット３が先端割溝に形成されている実施例２の態様のものを使用する。

なお、実施例３の態様のものも、通し孔を有する被加工物のみに適応する。

【００１０】

【考案の効果】

本考案のラッピングリーマは以上のようで、従来のラップカラーをバーに一々嵌着する方式が、嵌着相互摩擦抵抗によってラップ部の回り止めをしているため、極く微妙の削り代しかなく、従って加工中に切削抵抗が前記摩擦抵抗より大きくなると、空回りし砥石が不良になることはもちろん製品に砥石が焼き付き製品自体の不良を招くのに対し、本考案にあってはリーマそのものにラップ仕上げ具が一体的に備わっているから、上記のような憂いがなく、数十倍の削り代に耐え、且つ精度を守る。

加えて本願考案においては、切削外径（膨出度合）の調整を、軸方向にスリッ

トを間隔付設したラップ部内壁のテーパー面に挟めた押圧部材の移動により行うものとしたから、微調整はもとより常に真円型に拡張し、この面からも膨出によってスリット側に径が伸びる従来方式より加工精度を高く出すことができるものである。

以上から本考案は、作業性、正確性、高精度性をもたらすラッピングリーマを提供するものとしてまことに有利なものである。

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CLAIMS

(57) [Claim(s)]
[Claim 1] When it has the following and the telephone number is inputted from the above-mentioned ten key, while carrying out dial dispatch of this input telephone number by the above-mentioned dialer, it memorizes in the above-mentioned temporary storage section. When it clocks that predetermined-time maintenance of the line connection with a partner was carried out with the above-mentioned dial dispatch in the above-mentioned clock circuit, the telephone number in the above-mentioned temporary storage section is stored in the above-mentioned dial bank. Read the telephone number stored in the above-mentioned shortening number storage corresponding to the number when a shortening number is inputted by the combination input of the above-mentioned shortening key and a ten key, and dial dispatch is carried out by the above-mentioned dialer. In the communication terminal which performs dial dispatch by the above-mentioned dialer according to the telephone number chosen by choosing one of the content of a display of the while displaying the telephone number and the specific other party information in the above-mentioned dial bank on the above-mentioned display one by one, if the above-mentioned dial bank key is operated Answer the above-mentioned dial bank key stroke following the above-mentioned mode key stroke, and a change indication of the telephone number in the above-mentioned dial bank is given one by one on the above-mentioned display. The communication terminal characterized by storing in the above-mentioned shortening number storage section the telephone number which matches with this shortening number and is displayed on the above-mentioned display when a shortening number is inputted by the combination input of the account shortening key of Gokami, and a ten key. The control unit which has a ten key, a shortening key, a dial bank key, a mode specification key, etc. The shortening number storage section in which the telephone number is stored corresponding to a shortening number. The other party information specified by the telephone number and its telephone number is made into a pair, and it is the dial bank in which two or more storing is possible. A display, a dialer, the temporary storage section that stores temporarily the telephone number inputted from the above-mentioned ten key, and a clock circuit.
[Claim 2] When it has the following and the telephone number is inputted from the above-mentioned ten key, while carrying out dial dispatch of this input telephone number by the above-mentioned dialer, it memorizes in the above-mentioned temporary storage section. When it clocks that predetermined-time maintenance of the line connection with a partner was carried out with the above-mentioned dial dispatch in the above-mentioned clock circuit, the telephone number in the above-mentioned temporary storage section is stored in the above-mentioned dial bank. Read the telephone number stored in the above-mentioned one-touch number storage section corresponding to the one-touch key operated when the above-mentioned one-touch key was operated, and dial dispatch is carried out by the above-mentioned dialer. In the communication terminal which performs dial dispatch by the above-mentioned dialer according to the telephone number chosen by choosing one of the content of a display of the while displaying the telephone number and the specific other party information in the above-mentioned dial bank on the above-mentioned display one by one, if the above-mentioned dial bank key is operated Answer the above-mentioned dial bank key stroke following the above-mentioned mode key stroke, and

a change indication of the telephone number in the above-mentioned dial bank is given one by one on the above-mentioned display. The communication terminal characterized by matching the telephone number currently displayed on the above-mentioned display with the one-touch key by which operation was carried out [above-mentioned], and storing in the above-mentioned one-touch number storage section when one of the account one-touch key of Gokami of the is operated. The control unit which has a ten key, one or more one-touch keys, a dial bank key, a mode specification key, etc. The one-touch number storage section in which it matches with each of the above-mentioned one-touch key, and the telephone number is stored. The other party information specified by the telephone number and its telephone number is made into a pair, and it is the dial bank in which two or more storing is possible. A display, a dialer, the temporary storage section that stores temporarily the telephone number inputted from the above-mentioned ten key, and a clock circuit.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] this invention stores in memory automatically the telephone number inputted using the ten key, and relates to a reusable communication terminal easily.
[0002]
[Description of the Prior Art] Now, in communication terminals, such as telephone and facsimile apparatus, the one-touch dial function only the abbreviated dialing function or one key stroke made possible makes [the function] dispatch DAV ability by easy operation of only only one to 3 key is widely adopted in the telephone number (at least 6 figures) used frequently.
[0003] The correspondence storage of the numeric value (shortening number) of 2 figures and the telephone number is carried out beforehand, and the above-mentioned abbreviated dialing function sends automatically the telephone number by which correspondence storage was carried out only by inputting the key and above-mentioned digits [two digits] shortening number which directs abbreviated dialing dispatch at the time of dial dispatch. On the other hand, an one-touch dial function will send automatically the telephone number by which correspondence storage was carried out, if it matches with a specific key, the telephone number is memorized beforehand and the above-mentioned specific key is operated.
[0004] it was alike and the user had inputted the appropriate telephone number memorized for the above-mentioned abbreviated dialing function and an one-touch dial function by manual operation with this conventional seed equipment using the ten key etc. Therefore, it was very troublesome in order to have to perform again the operation as the time of the first registration that it is the same in order to change the once memorized telephone number, while registration of such the telephone number takes time. Moreover, although the telephone number which it is at the registration time of the above-mentioned telephone number, and is registered thinks that use frequency is high at the time, if it is actually used, use frequency may very be a low thing and, in such a case, it will become useless above-mentioned registration operating it.
[0005] In view of such a point, various improvement proposals are proposed from before. for example, the time of sending the telephone number in JP,1-50672,A using a ten key -- the other party -- talking -- inside -- being certain -- it is -- the equipment which the above-mentioned telephone number is matched [equipment] with a shortening number, and makes it memorize automatically is proposed the condition [the case where the probability that a user will surely perform retransmission like error generating under communication is high]
[0006] In JP,1-270453,A and JP,4-17439,A, the equipment which the telephone number inputted using the ten key is unconditionally matched [equipment] with a shortening number before the dispatch, and makes it memorize automatically is proposed.
[0007] In JP,2-202154,A, two or more telephone numbers sent using the ten key are unconditionally memorized in memory. When this memory becomes full, while deleting what was memorized in ancient times and memorizing the new telephone number, in case retransmission is performed using the

telephone number memorized by the above-mentioned memory The number of the same number memorized in the above-mentioned memory is detected, and the equipment which displays sequentially from a thing with much the number, and a user is made to choose is proposed.
[0008] In JP,2-189054,A and JP,4-134967,A, a name etc. is made into a pair, for example and the equipment which specifies the other party seen off by the other party with the telephone number inputted and sent from the ten key and the above-mentioned dispatch and with which shortening ****** performs one-touch registration automatically is proposed.
[0009]
[Problem(s) to be Solved by the Invention] being appropriate -- alike -- the above -- in which conventional equipment, although the dispatch telephone number could be automatically registered into memory, the storing position was not able to be changed by request of a user after that
[0010]
[Means for Solving the Problem] this invention is what was made in view of the above-mentioned technical problem. the 1st feature The control unit which has a ten key, a shortening key, a dial bank key, a mode specification key, etc., The shortening number storage section in which the telephone number is stored corresponding to a shortening number, and the other party information specified by the telephone number and its telephone number are made into a pair. The dial bank in which two or more storing is possible, A display, a dialer, and the temporary storage section that stores temporarily the telephone number inputted from the above-mentioned ten key, When it has a clock circuit and the telephone number is inputted from the above-mentioned ten key, while carrying out dial dispatch of this input telephone number by the above-mentioned dialer, it memorizes in the above-mentioned temporary storage section. When it clocks that predetermined-time maintenance of the line connection with a partner was carried out with the above-mentioned dial dispatch in the above-mentioned clock circuit, the telephone number in the above-mentioned temporary storage section is stored in the above-mentioned dial bank. Read the telephone number stored in the above-mentioned shortening number storage corresponding to the number when a shortening number is inputted by the combination input of the above-mentioned shortening key and a ten key, and dial dispatch is carried out by the above-mentioned dialer. In the communication terminal which performs dial dispatch by the above-mentioned dialer according to the telephone number chosen by choosing one of the content of a display of the while displaying the telephone number and the specific other party information in the above-mentioned dial bank on the above-mentioned display one by one, if the above-mentioned dial bank key is operated Answer the above-mentioned dial bank key stroke following the above-mentioned mode key stroke, and a change indication of the telephone number in the above-mentioned dial bank is given one by one on the above-mentioned display. When a shortening number is inputted by the combination input of the account shortening key of Gokami, and a ten key, it is in storing in the above-mentioned shortening number storage section the telephone number which matches with this shortening number and is displayed on the above-mentioned display.
[0011] The control unit in which the 2nd feature has a ten key, one or more one-touch keys, a dial bank key, a mode specification key, etc., The one-touch number storage section in which it matches with each of the above-mentioned one-touch key, and the telephone number is stored, The other party information specified by the telephone number and its telephone number is made into a pair. The dial bank in which two or more storing is possible, A display, a dialer, and the temporary storage section that stores temporarily the telephone number inputted from the above-mentioned ten key, When it has a clock circuit and the telephone number is inputted from the above-mentioned ten key, while carrying out dial dispatch of this input telephone number by the above-mentioned dialer, it memorizes in the above-mentioned temporary storage section. When it clocks that predetermined-time maintenance of the line connection with a partner was carried out with the above-mentioned dial dispatch in the above-mentioned clock circuit, the telephone number in the above-mentioned temporary storage section is stored in the above-mentioned dial bank. Read the telephone number stored in the above-mentioned one-touch number storage section corresponding to the one-touch key operated when the above-mentioned one-touch key was operated, and dial dispatch is carried out by the above-mentioned dialer. In the

communication terminal which performs dial dispatch by the above-mentioned dialer according to the telephone number chosen by choosing one of the content of a display of the while displaying the telephone number and the specific other party information in the above-mentioned dial bank on the above-mentioned display one by one, if the above-mentioned dial bank key is operated Answer the above-mentioned dial bank key stroke following the above-mentioned mode key stroke, and a change indication of the telephone number in the above-mentioned dial bank is given one by one on the above-mentioned display.

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TECHNICAL FIELD

[Industrial Application] this invention stores in memory automatically the telephone number inputted using the ten key, and relates to a reusable communication terminal easily.

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PRIOR ART

[Description of the Prior Art] Now, in communication terminals, such as telephone and facsimile apparatus, the one-touch dial function only the abbreviated dialing function or one key stroke made possible makes [the function] dispatch DAV ability by easy operation of only only one to 3 key is widely adopted in the telephone number (at least 6 figures) used frequently.
[0003] The correspondence storage of the numeric value (shortening number) of 2 figures and the telephone number is carried out beforehand, and the above-mentioned abbreviated dialing function sends automatically the telephone number by which correspondence storage was carried out only by inputting the key and above-mentioned digits [two digits] shortening number which directs abbreviated dialing dispatch at the time of dial dispatch. On the other hand, an one-touch dial function will send automatically the telephone number by which correspondence storage was carried out, if it matches with a specific key, the telephone number is memorized beforehand and the above-mentioned specific key is operated.
[0004] it was alike and the user had inputted the appropriate telephone number memorized for the above-mentioned abbreviated dialing function and an one-touch dial function by manual operation with this conventional seed equipment using the ten key etc. Therefore, it was very troublesome in order to have to perform again the operation as the time of the first registration that it is the same in order to change the once memorized telephone number, while registration of such the telephone number takes time. Moreover, although the telephone number which it is at the registration time of the above-mentioned telephone number, and is registered thinks that use frequency is high at the time, if it is actually used, its use frequency may be very low and, in such a case, it will become useless above-mentioned registration operating it.
[0005] In view of such a point, various improvement proposals are proposed from before. for example, the time of sending the telephone number in JP,1-50672,A using a ten key -- the other party -- talking -- inside -- being certain -- it is -- the equipment which the above-mentioned telephone number is matched [equipment] with a shortening number, and makes it memorize automatically is proposed the condition [the case where the probability that a user will surely perform retransmission like error generating under communication is high]
[0006] In JP,1-270453,A and JP,4-17439,A, the equipment which the telephone number inputted using the ten key is unconditionally matched [equipment] with a shortening number before the dispatch, and makes it memorize automatically is proposed.
[0007] When this memory becomes full, while memorizing unconditionally two or more telephone numbers sent using the ten key in memory in JP,2-202154,A, deleting what was memorized in ancient times and memorizing the new telephone number. In case retransmission is performed using the telephone number memorized by the above-mentioned memory, the number of the same number memorized in the above-mentioned memory is detected, and the equipment which displays sequentially from a thing with much the number, and a user is made to choose is proposed.
[0008] In JP,2-189054,A and JP,4-134967,A, a name etc. is made into a pair, for example and the equipment which specifies the other party seen off by the other party with the telephone number inputted

and sent from the ten key and the above-mentioned dispatch and with which shortening ****** performs one-touch registration automatically is proposed.

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EFFECT OF THE INVENTION

[Effect of the Invention] Since according to this invention the dispatch telephone number once stored all over the dial bank is arbitrarily matched with a shortening number or an one-touch key by a user's hope and can be reregistered, the communication terminal which is easy to use for a user is obtained. Moreover, all over a dial bank, since only the right partner's telephone number instead of the partner who performed the predetermined-time telephone call, i.e., an operation error, and a credit mistake is memorized, it can prevent registering an operation error and the credit mistake telephone number as a shortening number or an one-touch key.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] being appropriate -- alike -- the above -- in which conventional equipment, although the dispatch telephone number could be automatically registered into memory, the storing position was not able to be changed by request of a user after that

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MEANS

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OPERATION

[Function] According to the 1st feature of the above, the telephone number in a dial bank is matched with a shortening number, and can be reregistered.
[0013] According to the 2nd feature of the above, the telephone number in a dial bank is matched with an one-touch key, and can be reregistered.

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EXAMPLE

[Example] The block diagram showing the circuitry of the one example facsimile apparatus to which drawing 1 comes to apply this invention, and drawing 2 are the plans showing the control panel of this example.
[0015] Among drawing 1 , the control section which (1) becomes from a microcomputer, and (2) are ROMs which consist of a semiconductor read-only memory, and the control program is beforehand stored in this ROM. The above-mentioned control section (1) manages control of each part connected by bus (3) based on the above-mentioned control program.
[0016] (4) is a clock circuit and this circuit clocks under control of a control section (1). (5) is a read station, this read station has binarization or a circuit for multiple-value-izing for the signal read from an optical reading means and these meanses, such as CCD and an adhesion sensor, and it outputs the digital image signal corresponding to this picture while it reads the picture on a manuscript optically. (61) is the Records Department, and this Records Department has the printer of well-known methods, such as hot printing, a sensible heat, an ink jet, or electrophotography, and prints under control of a control section (1). (6) is a modem and this modem performs the modulation recovery of the picture signal sent and received under control of a control section (1). (7) is a hand set, (8) is NCU, and this NCU is an interface for making change connection of the telephone line alternatively at the above-mentioned modem (6) and a hand set (7). (9) is a dialer and this dialer sends out the dial signal which becomes the bottom of control of a control section (1) from a pulse or DTME to the telephone line through NCU (8). (10) is an arrival-of-the-mail detector, and this circuit detects the call-in signal sent through the telephone line. (11) is an off-hook detecting element and, as for this detecting element, a hand set (7) detects whether it is an off-hook state. (12) is a display and this display consists of flat displays, such as LCD.
[0017] (13) is a control unit and this control unit has various keys, such as the ten key (14) allotted around the display (12) as shown in drawing 2 , an one-touch key (15A) - (15D) shortening key (16), a start key (17), a stop key (18), an on-hook dialing key (19), a menu screen key (20), a set key (21), and a dial bank key (22).
[0018] (23) is RAM which consists of rewritable storage of for example, a semiconductor RAM etc., and it is used also as work memory of the above-mentioned control section (1) while the dial bank (24) shortening number storage section (25) one-touch number storage section (26) and the dispatch dial temporary storage section (27) are formed in this RAM.
[0019] It matches with the number of times of use (frequency) of the control word (CW) which shows the existence of correction of a partner's information (name) specified by the telephone number in the telephone number of plurality (this example 20 pieces) as shown in drawing 3 , and this information, and the above-mentioned telephone number, and is stored in the above-mentioned dial bank (24). In addition, Above CW is set to "1" when the above-mentioned name is corrected so that it may become clear from next explanation, and it is "0" except it.
[0020] A partner's information (name) specified by the telephone number and its telephone number corresponding to a shortening number (this example 16 kinds of 00-15) as shown in drawing 4 is stored in the above-mentioned shortening number storage section (25). In addition, the combination input of

the above-mentioned shortening key (16) and a ten key (14) can perform read-out of the above-mentioned telephone number. For example, the telephone number "06-992-1234" stored corresponding to the shortening number "02" in the shortening number storage section (25) can be read by inputting combining "0" of a shortening key (16) and a ten key (14), and "2."

[0021] A partner's information (name) which matches with each one-touch key (15A) - (15D), and is specified by the telephone number and its telephone number as shown in drawing 5 is stored in the above-mentioned one-touch number storage section (26). In addition, read-out of the above-mentioned telephone number can be performed by operating above-mentioned one-touch key (15A) - (15D). For example, if an one-touch key (15B) is operated, the telephone number "06-332-3939" in the one-touch number storage section (26) can be read.

[0022] Drawing 6 - drawing 14 are flow charts which show the control action of a control section (1) based on the control program in ROM (2), and, below, explain operation of this example based on this chart.

[0023] In S1 of drawing 6 , it judges whether the arrival-of-the-mail detecting element (10) detected arrival of the mail, when arrival of the mail is detected, a circuit is connected in S2 step, and telephone call and facsimile reception are performed according to the demand from a call origination side. In addition, like common knowledge, this facsimile reception gets over with a modem (6), and prints the modulation facsimile signal transmitted through the telephone line by Records Department (61) based on the signal by which the after tone was carried out. After processing of S2 step is completed, it returns to S1 step.

[0024] On the other hand, when arrival of the mail is not detected in S1 step, processing is advanced to S3 step. At S3 step, it judges whether the off-hook detecting element (11) detected that a hand set (7) was in an off-hook state, or the off-hook dialing key (19) of a control unit (13) was operated. If it judges with it being off-hook by this judgment, an off-hook flag (OHF) will be set to "1" in S4 step, and processing will be advanced to S5 step. In addition, Above OHF is set up into RAM (23).

[0025] At S5 step, if it judges whether there was any key input and there is a key input, processing will be advanced to S9 step. It judges whether on the other hand, when there was no key input, in S6 step, the hand set (7) was on hook, and if it is not in an on-hook state, processing will be returned to S5 step and S5 and S6 step will be repeated. Moreover, when it comes to an on-hook state, OHF is reset to "0" at S7 step, and processing is returned to S1 step.

[0026] In the S3 above-mentioned step, when it judges with it not being in an off-hook state, processing is advanced to S8 step. At S8 step, the existence of a key input is judged, and when the key is not operated, processing is returned to S1 step.

[0027] namely, -- the loop which consists of each step of the above S1, S3, and S8 -- the standby state of equipment -- setting -- arrival of the mail -- processing operation is opted for off-hook or a key stroke according to waiting and each trigger

[0028] If it judges with key stroke ** in the S8 above-mentioned step, the classification of the key operated in S9 step will be judged, and operation which should next be performed based on the result will be determined.

[0029] If it judges with the ten key (14) having been operated, processing will progress to S11 step shown in drawing 7 . While storing the data of the ten key (14) which cleared the temporary storage section (27) in RAM (23), and was detected in the above S8 and S9 step in S12 continuing step in the above-mentioned temporary storage section (27), it expresses to a display (12) as S11 step. Subsequently, the time check by the clock circuit (4) is made to start in S13 step. At S14 continuing step, when it is judged and operated whether the ten key (14) was operated again, processing is returned to S12 step. namely, -- since the restart of the time check of a clock circuit (4) will be carried out whenever the telephone number which should be sent is stored in the temporary storage section (27) the whole figure and 1 figure of this telephone number is stored by repeating S12 - S14 step -- the time check of a clock circuit (4) -- time turns into elapsed time from storing of the last to the temporary storage section (27)

[0030] If it judges with the ten key (14) not being operated in the S14 above-mentioned step It judges

whether in S15 and S16 step, the start key (17) or the menu screen key (20) was operated, respectively. If it judges with the start key (17) having been operated, processing will be advanced to S40 step of drawing 9 , and if it judges with on the other hand the menu screen key (20) having been operated, processing will be advanced to S50 step of drawing 10 . Moreover, if it judges with both the above-mentioned keys not being operated, processing will be advanced to S17 step.

[0031] At S17 step, when judging and operating whether the stop key (18) was operated, old processing is repealed and processing is returned to S1 step of drawing 6 . moreover, the case where it is not operated -- S18 step -- setting -- the time check of a clock circuit (4) -- it judges whether time has turned into more than the predetermined time (for example, 10 seconds), processing is returned to S14 step at the time of 10 or less seconds, and processing is returned to S19 step at the time of 10 seconds or more

[0032] That is, when progress of a predetermined time (10 seconds) is judged at S18 step so that it may become whether to be Ming from next explanation, dial dispatch is automatically performed with it being in an off-hook state.

[0033] At S19 step, it judges whether it is in the state (off-hook state) where dial dispatch can be performed at present. Even if OHF was set to "1" or OHF was "0", when it is specifically detected whether off-hook ****** of the hand set (7) is carried out by the off-hook detecting element (11) at the time or the off-hook dialing key (19) is operated, idea processing is advanced to S20 step of drawing 8 as an off-hook state, and when that is not right, processing is returned to S14 step.

[0034] Each processing shown in drawing 8 - drawing 10 is for the key objective of dispatch of the telephone number stored in the temporary storage section (27) in above-mentioned S8, S9, and S11 - S14 step performing telephone call, facsimile transmission, and polling reception, respectively, and explains each processing in detail below.

[0035] S20 step of drawing 8 is a step which progresses when judged with an off-hook state in S19 step shown in drawing 7 , and makes a dialer (9) perform dial dispatch based on the telephone number memorized by the temporary storage section (27) at **** S20 step. At S21 continuing step, OHF is reset to "0" and, subsequently it waits for connection of a circuit, i.e., the other party's response which carried out dial dispatch in S20 step, in S22 step. If it judges whether there was any detection of stop key (18) operation or the change from an off-hook state in the on-hook state of the hand set (7) by the off-hook detecting element (11) in S23 step in the meantime (henceforth an on-hook judging) and judges with there having been the either, a circuit is compulsorily returned to S1 step as **, and it will be in a standby state.

[0036] On the other hand, if a circuit with the other party is connected in S22 step, in S24 step, a telephone call will be made possible, and, subsequently to S25 step, the restart of the time check of a clock circuit (4) will be carried out.

[0037] At S26 continuing step, it judges whether the start key (17) was operated. This judgment judges whether the start of facsimile transmission is demanded following the telephone call started in the S24 above-mentioned step, judges [detect / operation of a start key (17)] with a facsimile Request to Send, and advances processing to S32 step. Since S32 step is the same to the S29 below-mentioned step, it is explained collectively later.

[0038] If an on-hook judging is performed like S23 step at S27 step which will continue if it judges with the start key (17) not being operated in S26 step and it judges with it being on hook, a circuit is compulsorily returned to S1 step as **, and it will be in a standby state.

[0039] if it judges with it not being on hook at S27 step -- S28 step -- setting -- a clock circuit (4) -- the time check of S25 step -- it judges whether it clocked 10 seconds or more after the start, and processing is returned to S26 step at the time of 10 or less seconds On the other hand, processing is advanced to S29 step at the time of 10 seconds or more.

[0040] Both S29 and S32 steps are steps which store in a dial bank (24) the telephone number stored in the temporary storage section (27). Specifically, a control section (1) rearranges the telephone number in a dial bank (24) into the high order of the frequency information first. In addition, in this rearrangement, the ranking relation before rearrangement is respected about the thing of the same frequency information. Then, when it judges whether there is any opening and an opening is in the above-

mentioned bank (24), a part for new storing is stored so that it may be located in the tail end in the data in a bank (24). the case where there is no opening into a bank (24) on the other hand -- a control word (CW) -- the inside of the thing of "0" -- most -- low thing selection of frequency -- it carries out When two or more things which are CW=0 and serve as the minimum frequency by this selection exist, the telephone number further stored in the best position in it is chosen, and this selected telephone number and selected it, a corresponding name, CW, and frequency information are deleted. And data are repacked, the telephone number in the temporary storage section (27) is stored in the telephone number column of the vacant lowest position to vacate the lowest position in the above-mentioned bank (24), and corresponding to it, "0" is stored in the CW column and "1" is stored in the frequency column.

[0041] Since there is no opening all over a dial bank (24) as an example supposing the state which shows in drawing 3 now is the stage which rearrangement based on frequency information ended As mentioned above, after the telephone number "0857-82-1234" and it, and corresponding information are redeleted from CW, frequency information, and a storing position, the new telephone number is stored, and corresponding to it, the information on CW=0 and frequency =1 is also stored, respectively.

[0042] In addition, although above-mentioned processing is a thing when the same telephone number as the telephone number in the temporary storage section (27) is not stored all over the dial bank (24), when the same number is already stored, after only "1" only increments the telephone number and corresponding frequency information, processing is ended only by performing above-mentioned rearrangement.

[0043] Moreover, in this example, although only the thing of CW=0 was made applicable to deletion, since a user was considered to wish to correct a name and to be stored all over a dial bank (24) at least, what as for this is CW=1 so that more clearly than next explanation was excepted from the above candidates for automatic deletion. Moreover, although what is located in a high order was made applicable to deletion in the thing of the same frequency, it is because it is hard to think that that to which this is located in a high order within the same frequency is used recently and use frequency is relatively considered to be a low thing.

[0044] By doing in this way, storing maintenance of the telephone number a user uses frequently in a dial bank (24), or it is considered that is important can be carried out preferentially.

[0045] After the S32 above-mentioned step is completed, processing progresses to S44 step of drawing 9 , and starts the preparation for facsimile transmission.

[0046] On the other hand, subsequently an end of S29 step processes S30 and S31 step. S30 step judges the existence of operation of a start key (17) like the S26 above-mentioned step, and already, when operated, since it has ended, telephone number storing on a bank (24) advances processing to S44 step of direct drawing 9 , and starts the preparation for facsimile transmission. Moreover, at S31 step, if an on-hook judging is performed like S27 above-mentioned step and it judges with it being on hook, a circuit is compulsorily returned to S1 step as **, and it will be in a standby state. The loop which consists of S30 and S31 step is infinitely repeated during a telephone call, unless it will be in start key (17) operation or an on-hook state.

[0047] Although it constitutes so that the telephone number in the temporary storage section (27) may not be stored in a dial bank (24) if predetermined-time (10 seconds) continuation of the telephone call is not carried out unless start key (17) operation is performed in the telephone call processing shown in drawing 8 so that clearly from the above-mentioned explanation, this is for depending almost to a ten key (14) operation error, and avoiding storing on the dial bank (24) of the telephone numbers, such as a mistake. On the other hand, although it constituted so that the telephone number in the temporary storage section (27) might be immediately stored in a dial bank (24) when the start key (17) was operated in the above-mentioned predetermined time, it is because it can consider that the right partner has done this by the prior telephone call as for the telephone.

[0048] S40 step of drawing 9 is a step which progresses when judged with start key (17) operation in S15 step shown in drawing 7 , and stores the telephone number in the temporary storage section (27) in a dial bank (24) like S29 and S30 above-mentioned step at **** S40 step. In addition, since concrete processing is the same as that of S29 and S30 step, explanation is omitted.

[0049] At S41 continuing step, dial dispatch is performed based on the telephone number stored in the temporary storage section (27) like S20 step, and in continuing S42 and S43 step, if a line connection with a partner is connected in waiting and a circuit, performing an on-hook judging like the above S22 and S23 step, processing will be advanced to S44 step.
[0050] At S44 step, the various signals (the digital recognition signal DIS, the non-standard equipment signal NSF, the digital transmitting instruction signal DTC, non-standard equipment instruction signal NSC, etc.) for performing a functional setup between equipment are exchanged in transmission and reception of a picture signal. At S45 continuing step, when it judges whether the information which shows the other party's local station name (name) is included and the above-mentioned name is contained in the NSF signal transmitted from the other party in the S44 above-mentioned step, the name is stored in the name column of a dial bank (24) in S46 step. Since S40, S32, or S29 step will specifically be processed by the time it results in this S44 step, and the telephone number of the temporary storage section (27) is already stored all over the dial bank (24) in these steps, it matches with this telephone number and the above-mentioned name is stored.
[0051] At S47 continuing step, while encoding the picture signal outputted from the read station (5) for every line, after becoming irregular with a modem (6), it transmits to the other party through NCU (8). If the end of this transmitting processing is detected at S48 step, a circuit will be compulsorily made into **, processing is returned to S1 step, and it will be in a standby state.
[0052] Thus, shortly after a start key (17) is operated following the telephone number input by ten key (14) operation at S12 - S14 step shown in drawing 7 , the telephone number in the temporary storage section (27) is stored in a dial bank (24) like the case where a start key (17) is operated at S26 step. Moreover, shortly after the other party's local station name is acquired during processing of S44 step, it is stored in a dial bank (24) corresponding to the above-mentioned telephone number.
[0053] S50 step of drawing 10 is a step which progresses when judged with menu screen key (20) operation in S16 step shown in drawing 7 , and at this S50 step, if it judges whether polling reception was chosen by combination operation with the above-mentioned menu screen key (20) and other keys and functions other than polling reception are chosen, it will return processing to S14 step (drawing 7).
[0054] On the other hand, if judged with polling reception, S51 - S59 step will be processed sequentially. If S51 - S54 step is the same as S40 - S43 step of drawing 9 , dial dispatch is performed after storing the telephone number in the temporary storage section (27) in a dial bank (24) (S51 step) (S52 step), and a circuit connects, processing will be advanced to S55 step (S53 step). At S55 step, if it removes that it is an exchange of the signal for polling reception, and it is fundamentally the same as that of S44 step and the name of the other party is contained in this signal (judgment of S56 step), in S57 step, the above-mentioned name is stored in a dial bank (24) like S46 step. Subsequently, it receives through NCU (8) and a modem (6), and the printout of the picture signal sent from the other party in S58 step is carried out by Records Department (61) based on it. If the end of such reception is detected at S59 step, a circuit is compulsorily made into **, processing is returned to S1 step, and it will be in a standby state.
[0055] Thus, if the telephone number in the temporary storage section (27) is immediately stored in a dial bank (24) after selection of a polling reception function also in the processing shown in drawing 10 and a name is obtained from the other party during polling reception, **** storing also of the name will be carried out on a dial bank (24).
[0056] It returns to drawing 6 , and if it judges with the shortening key (16) having been now operated in S9 step, processing will progress to S60 step of drawing 11 .
[0057] At S60 step, if the input of the shortening number by ten key (14) operation is inputted into waiting and this, the telephone number stored in the shortening number storage section (25) at S61 step corresponding to the shortening number will be read. Subsequently, in S62 step, dial dispatch is performed through NCU (8) based on this telephone number from a dialer (9).
[0058] At S63 and S64 continuing step, if connection of a circuit is connected in waiting and a circuit, performing an on-hook judging like above-mentioned S22 and S23 step, processing will be advanced to S65 step.

[0059] At S65 step, when judging and setting whether the manuscript which should be read to a read station (5) is set, the above-mentioned manuscript is read in S66 step, and a picture signal is transmitted according to a well-known facsimile procedure. After this transmission is completed, a circuit is made into **, processing is returned to S1 step, and it will be in a standby state. After it will make a telephone call possible in S67 step on the other hand if it judges with nothing [manuscript] at S65 step, and a telephone call is completed, it returns to S1 step similarly and will be in a standby state.
[0060] If it judges with an one-touch key (15A) - (15D) either having been operated in S9 step of drawing 6 , processing will progress to S68 step of drawing 11 . In S68 step, the telephone number which matches with the operated one-touch key and is stored in the one-touch number storage section (26) is read, and dial dispatch is performed like the case of shortening key (16) operation at S62 continuing step. Since subsequent processing is the same as that of S63 - S67 above-mentioned step, explanation is omitted.
[0061] It returns to drawing 6 , and if it judges with the dial bank key (22) having been operated in S9 step, processing will progress to S70 step of drawing 12 .
[0062] The telephone number and the name which are located in the most significant in a dial bank (24) are expressed to a display (12) as S70 step. As shown in drawing 3 , supposing data are specifically stored, the telephone number "12-3456" and it, and a corresponding name "A company" will be displayed on a display (12).
[0063] If the existence of operation of a dial bank key (22) is judged at S71 continuing step and it judges with ******, it will return to S70 step, will change to the telephone number which it is at the operation time and is displayed on the display (12), and the telephone number and it which are located in the degree of the storing position in the dial bank (24) of the number, and a corresponding name will be displayed on a display (12). Henceforth, whenever it detects dial bank key (22) operation in S71 step, the display on a display (12) is switched one by one similarly. In addition, if the above-mentioned dial bank key (22) is operated when the telephone number and the name which are located in the least significant in a dial bank (24) are displayed on the display (12), on a display (12), the telephone number and the name which are located in the best position in a dial bank (24) will be displayed.
[0064] That is, the telephone number and the name in a dial bank (24) are cyclically displayed on a display (12) one by one by repeating operation of the above-mentioned dial bank key (22).
[0065] On the other hand, detection of that the start key (17) was operated in S72 step advances processing to S73 step. At S73 step, only "1" increments the frequency information stored in the dial bank (24) corresponding to the telephone number currently displayed on the display (12) at the time, and processing is advanced to S74 step.
[0066] S74 step performs dial dispatch from a dialer (9) based on the telephone number currently displayed on the display (12) at the time. At S75 continuing - S79 step, if connection of a circuit is connected in a waiting (S76 step) circuit, performing an on-hook judging (S75 step) like S63 - S67 step shown in drawing 11 , based on detection (S77 step), selection execution of the processing of facsimile transmission (S78 step) or a telephone call (S79 step) will be carried out for the existence of the manuscript on a read station (5).
[0067] It returns to drawing 6 , and if it judges with menu screen key (20) operation in S9 step, processing will progress to S80 step of drawing 13 .
[0068] The above-mentioned menu screen key (20) operation is for shifting to the mode for performing the various functions and initial value (local station name etc.) setup with which equipment is equipped.
[0069] The mode in which S80 and S81 step of drawing 13 transmits the data in a dial bank (24) to the shortening number storage section (25) or the one-touch number storage section (26) among the various above-mentioned modes, respectively, Or if it judges whether the edit mode which corrects the name data in a dial bank (24) was chosen and transfer mode is chosen, processing will move from S80 step to S91 step of drawing 14 , and if the edit mode is chosen, S83 - S90 step will be processed. In addition, when the modes other than the above-mentioned transfer and the edit mode are chosen, after performing processing according to the mode progressed and chosen as S82 step, processing is returned to S1 step.
[0070] The telephone number and the name in a dial bank (24) are cyclically expressed as the loop

which consists of S83 and S84 step on a display (12) one by one for every dial bank key (22) operation like the loop which consists of S70 and S70 step shown in drawing 12 .

[0071] Moreover, at S85 step, if it is judged whether the end of the edit mode is directed by stop key (18) operation and it judges with end directions, the edit mode will be ended, processing is returned to S1 step, and it will be in a standby state.

[0072] An example of the data in the dial bank (24) displayed on the display (12) by the S83 above-mentioned step is shown in drawing 15 . The 1st line of a display (12) becomes a field (the 1st field) for displaying the telephone number, and the 2nd line becomes a field (the 2nd field) for displaying a name. Moreover, cursor (30) is displayed on the 2nd field. This cursor (30) can be limited in the 2nd field, and can be moved only to right and left. This is for limiting the arbitrary corrections by the user only to a name among the data in the above-mentioned dial bank (24). Change [**** / un-/ the telephone number / by this] can be prevented.

[0073] In the edit mode, movement of the above-mentioned cursor (30) can be performed using " " and the "#" key in a ten key (14). Moreover, the combination of 0 - 9 key of a ten key (14) can perform the input of various characters.

[0074] S86 step in drawing 13 judges whether it is the no to which ten key (14) operation for the above-mentioned cursor advance and a character input or set key (21) operation was performed, and when those operations do not exist, it returns processing to S84 step immediately.

[0075] Moreover, it is a cursor movement key. If it judges with the key or the # key having been operated, in S87 step, cursor (30) will be moved to right and left by one character corresponding to an operation key, and processing will be returned to S84 step. If zero to 9 key for a character input is operated, the character specified by the above-mentioned key stroke in S88 step will be replaced by the character on cursor (30) position in a display (12), and processing will be returned to S84 step. If set key (21) operation is detected at S86 step, overwrite of the name currently displayed on the display (12) at present in S89 step is carried out to the name column in the telephone number currently displayed with it, and a corresponding dial bank (24), and after setting to "1" CW which subsequently corresponds with the name column at S90 step, processing will be returned to S84 step.

[0076] If a ten key (14) is operated that the character "T" on cursor (30) should be changed into a character "K" in drawing 15 as an example and a set key (21) is subsequently operated, the telephone number "0857-82-1234" in the dial bank (24) shown in drawing 3 and a corresponding name will be corrected with "KOTTORI", and CW will be set to "1."

[0077] Next, the processing at the time of transfer mode is explained based on the flow chart of drawing 14 .

[0078] First, in S91 and S92, dial bank key (22) operation is answered like S83 and S84 above-mentioned step, and a corresponding name is displayed on a display (12) as the telephone number in a dial bank (24), and it in cyclic one by one.

[0079] Moreover, if it detects in S93 step that one of the one-touch key (15A) - (15D) was operated The telephone number and the name which are displayed on the display (12) in S95 step at the time are stored in the one-touch key by which operation was carried out [above-mentioned], the corresponding telephone number column, and the name column in the one-touch number storage section (26), respectively, and the data with which it corresponds in a dial bank (24) are deleted.

[0080] In addition, it is desirable to constitute so that a user may be made to determine the propriety of deletion after displaying stored data on a display (12), when data are already stored corresponding to the operated one-touch key at this time.

[0081] It waits for the shortening number input using the ten key (14) in S96 step which will continue on the other hand if it detects that the shortening key (16) was operated in S94 step, and if inputted, processing will be advanced to S97 step. At S97 step, it stores in the shortening number into which the telephone number and the name which are displayed on the display (12) were inputted in the S96 above-mentioned step at the time, the telephone number column of the corresponding shortening number storage section (25), and the name column, respectively, and the data with which it corresponds in a dial bank (24) are deleted.

[0082] In addition, it is desirable to make a user determine the propriety of deletion of the data, after displaying stored data on a display (12), when data are already stored corresponding to the shortening number by which it was similarly specified as the time of an one-touch key stroke at this time.
[0083] After processing of S95 and S97 step is completed when a key stroke is not able to be detected at above S92 - S94 step and, processing progresses to S98 step.
[0084] At S98 step, if it judges whether the stop key (18) for directing the end in transfer mode etc. was operated and judges with the end not being directed, processing will be returned to S92 step. On the other hand, if it judges with the end being directed, processing is returned to S1 step and it will be in a standby state.
[0085] Thus, in this example, the data in a dial bank (24) can be transmitted to the shortening number storage section (25) and the one-touch number storage section (26) by easy operation. Moreover, since the transmitted data are deleted from the inside of a dial bank (24), useless waste of memory is avoided by duplication storing.
[0086] If it returns to drawing 6 and for example, copy keys (31) other than a ten key (14), shortening key (16), one-touch key (15A) - (15D) dial bank key (22) and a menu screen key (20) are operated in S9 step, after performing well-known copy operation in S10 step, processing is returned to S1 step and it will be in a standby state.

[Translation done.]

* NOTICES *

Japan Patent Office is not responsible for any
damages caused by the use of this translation.

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram showing one example of this invention.
[Drawing 2] It is the plan showing the control panel of this example.
[Drawing 3] It is the ** type view showing the dial bank of this example.
[Drawing 4] It is the ** type view showing the shortening number storage section of this example.
[Drawing 5] It is the ** type view showing the one-touch number storage section of this example.
[Drawing 6] It is a flow chart for explaining operation of this example.
[Drawing 7] It is a flow chart for explaining operation of this example.
[Drawing 8] It is a flow chart for explaining operation of this example.
[Drawing 9] It is a flow chart for explaining operation of this example.
[Drawing 10] It is a flow chart for explaining operation of this example.
[Drawing 11] It is a flow chart for explaining operation of this example.
[Drawing 12] It is a flow chart for explaining operation of this example.
[Drawing 13] It is a flow chart for explaining operation of this example.
[Drawing 14] It is a flow chart for explaining operation of this example.
[Drawing 15] It is the ** type view showing the display gestalt of this example.
[Description of Notations]
1 Control Section
4 Clock Circuit
7 Hand Set
11 On-Hook Detecting Element
12 Display
13 Control Unit
14 Ten Key
15 One-touch Key
16 Shortening Key
17 Start Key
18 Stop Key
20 Menu Screen Key
22 Dial Bank Key
23 RAM
24 Dial Bank
25 Shortening Number Storage Section
26 One-touch Number Storage Section
27 Dispatch Dial Temporary Storage Section

[Translation done.]